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VIBRATION INSTRUMENT CALIBRATION METHOD AND APPARATUS

Darlene Turner
Serial No.: 10/629,445
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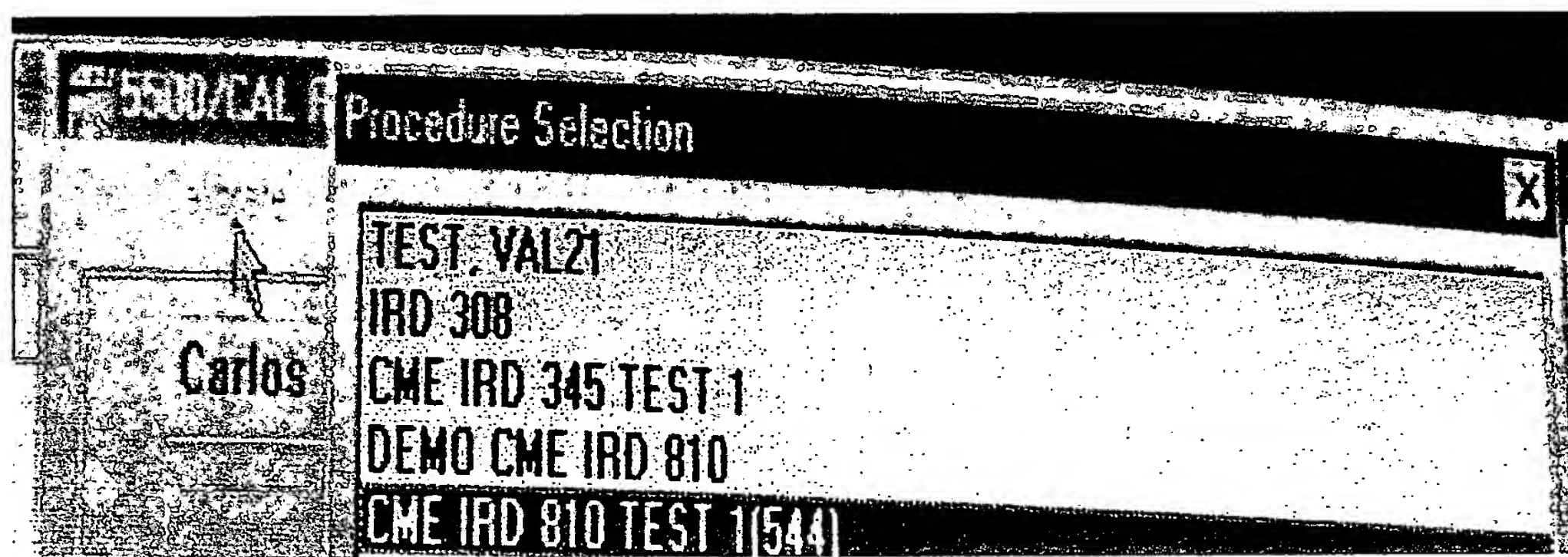


FIG.1

VIBRATION INSTRUMENT CALIBRATION METHOD AND APPARATUS

Darlene Turner

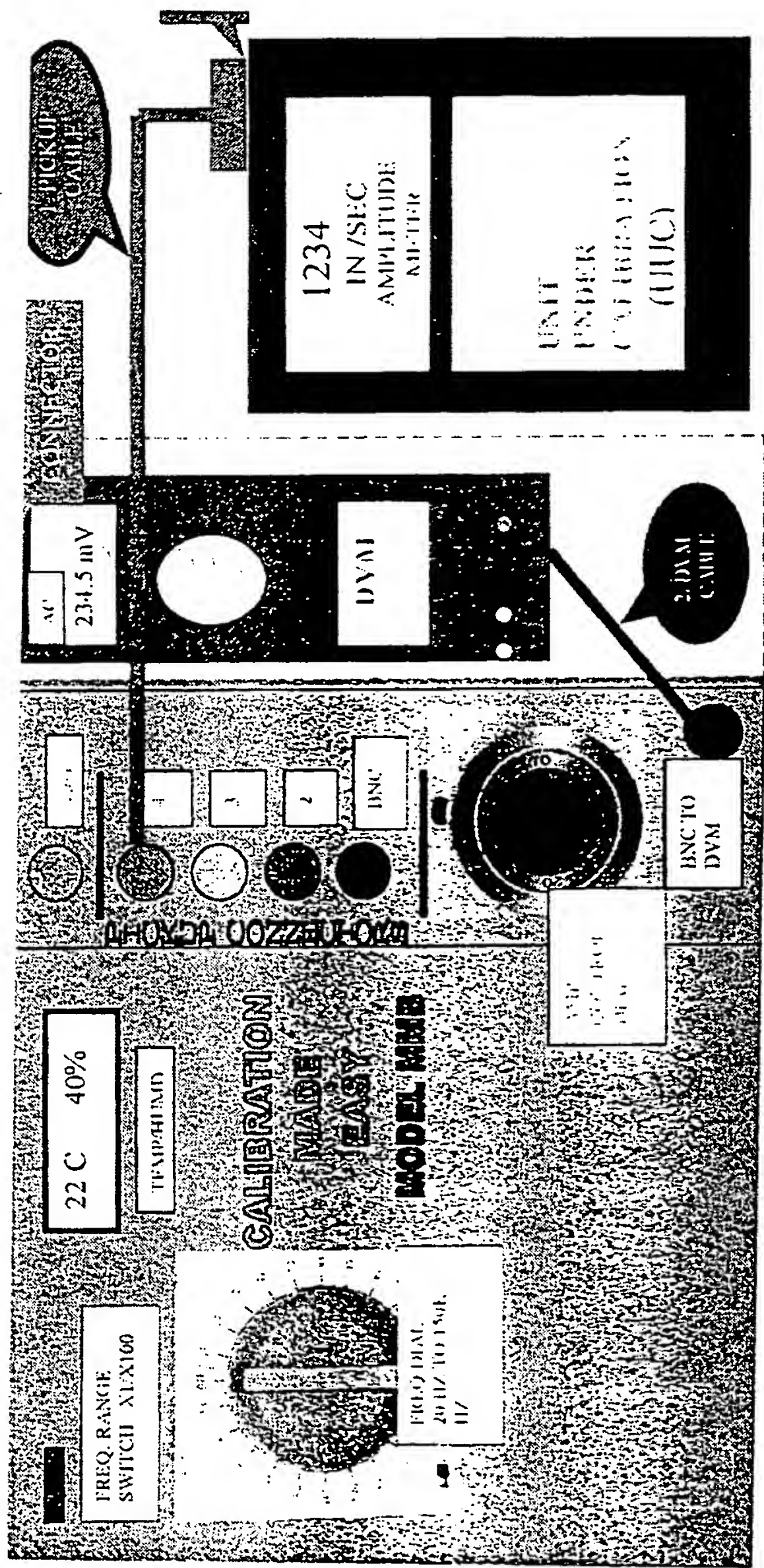
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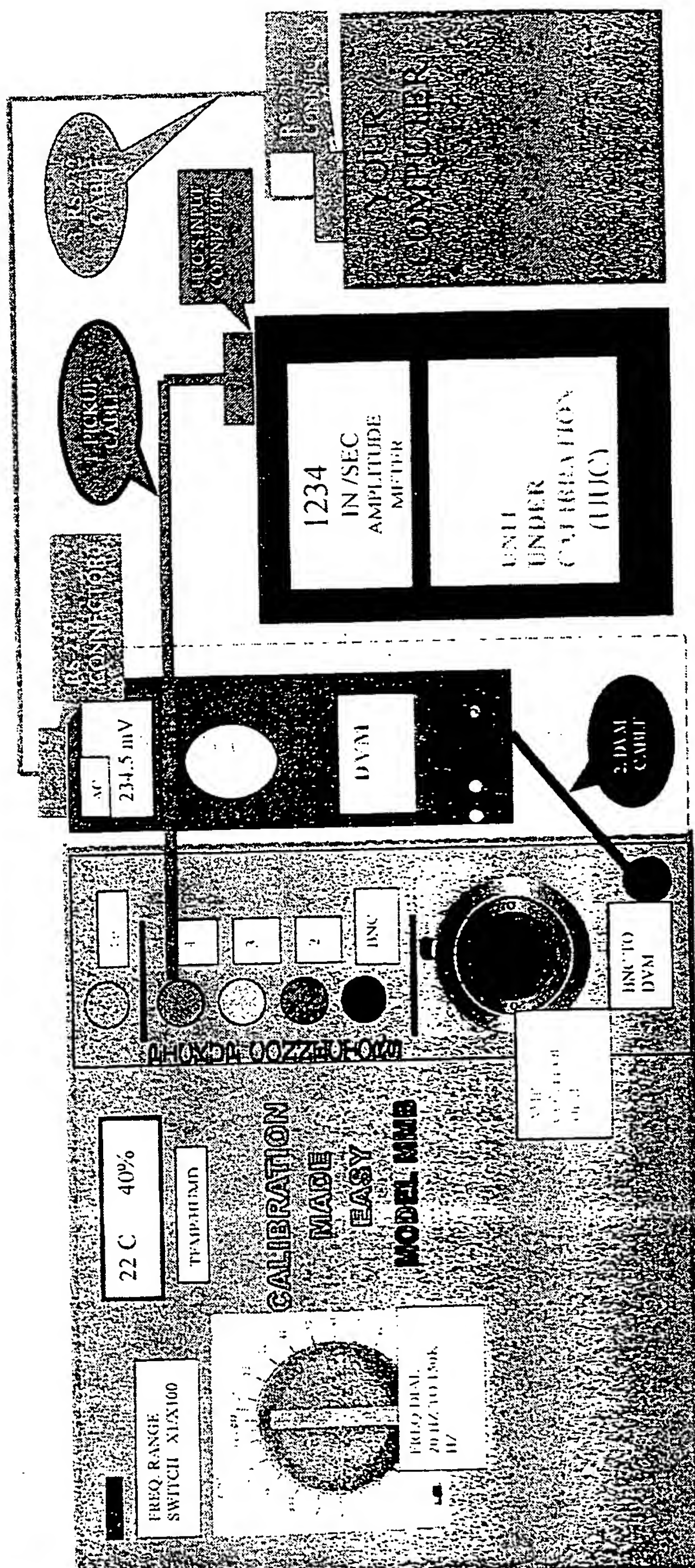
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☐ Test Information

PLEASE TAKE TIME AND FAMILIARIZE WITH THE MODEL MME

FIG.2





1. CONNECT PICKUP CABLE TO UUC'S INPUT CONNECTOR
CONNECT THE OTHER END, TO PICKUP CONNECTOR ON
THE MODEL MMB
 2. CONNECT DVM CABLE TO DVM AND THE OTHER END 'BNC TO DVM'
 3. CONNECT RS-232 CABLE TO 'RS-232 CONNECTOR ON THE MODEL DVM' THE
OTHER END TO 'RS-232 ON YOUR COMPUTER'
- FOLLOW PROCEDURE ON THE COMPUTER**

FIG.4

EXAMPLE

Calibration Results
VIBRATION ANALYSIS LIMITED

UUT: ICP 328F01
ACCELEROMETER
Serial No: 27024
Asset No. 991111R

Notes:

Result: **PASS**
Performed on: 3/1/02 at 12:18:00
Performed by: DARLENE TURNER
Environment: Temp. 28.2°C Humid. 37 %
Condition F/L: FOUND-LEFT
Procedure Completed:

PASS

Standards Used Asset	Mfr	Model	Description	Cal. Date	Due Date
VALTE106	FLUKE	87	DVM	10-Sep-01	10-Sep-02
0074	DYNAMIC	DI-803	TRANSDUCER TESTER	11-Apr-01	11-Apr-02
9901183	ENTEK/IRD	870	STANDARD TRANSDUCER	19-Jan-02	17-Jan-03
9904138	ENTEK/IRD	844	STANDARD TRANSDUCER	19-Jan-02	17-Jan-03

Test Data		SPD PARAMETER	TRUE VALUE	READING	UNIT UNDER TEST	TOLERANCE	UNIT ERROR	NOTIFY
TEST#								TUR USER
TOLERANCE +/- 10% READING IN ACC.								
1		100mv @ 10Hz test		103		3.2mv		31
2		100mv @ 50Hz test		106		6.2mv		58
3		100mv @ 100Hz test		107		6.9mv		65
4		100mv @ 500Hz test		107		6.9mv		65
5		100mv @ 1000Hz test		107		7.1mv		66
End of Test Data								

FIG.5

Calibration Results
GRB ENTERPRISE

UUT: FLUKE 87
DVM
Serial No: VALTE108
Asset No. VALTE108

Result:
Performed on: 8/1/03 at 09:52:00
Performed by: Carlos R. Hill
Environment: Temp. 23.5°C Humid. 40 %
Condition F/L: FOUND-LEFT
Procedure Completed:



EXAMPLE

Standards Used		Description		Cal. Date	Due Date
Asset	Mfg	Model			

Test Data		UNIT UNDER TEST		ERROR IN	NOTIFY
TEST#	PARAMETER	READING	TOLEPANCE	OUT ERROR	(25 TOL) TUE. USER

1	Asset # or Serial # of MODEL MMB				
1	ABCD1234				
1					
1	05/10/03				
1					
1	Asset # or Serial # of Transducer 1				
1	H3456789				
1					
1	Asset # or Serial # of Transducer 1				
1	544				
1					
1	Asset # or Serial # of Transducer 2				
1	GI23456				
1					
1	Asset # or Serial # of Transducer 2				
1	544				
1					

1	BATT SIGNAL CHECK		PASS
	Result of Operator Evaluation		
	READING IN DISP		
	100.0 Hz test		
	.9 to 1.0		
2	Result of Operator Evaluation		PASS
3	AC 0.015 V		
	50.0 Hz test		

End of Test Data

FIG.6

EXAMPLE

VIBRATION ANALYSIS LIMITED

Certificate of
Calibration
DRAFT

3600 SUNBURY RD.
COLUMBUS, OH 43219
1-800-350-4988
614-476-0740
FAX: 614-476-0784
www.vibrationanalysis.net

For Instrument: ICP 328F01
Description: ACCELEROMETER
Asset Number: 991111P Serial Number: 27012

VIBRATION ANALYSIS LIMITED TESTING SERVICES HEREBY CERTIFIES THAT:
the above described instrument met or exceeded all published specifications at the time of calibration
specified below, and has been calibrated using standards whose accuracies are traceable to the National
Institute of Standards and Technology (NIST) within the limitations of the Institute's calibration services,
or have been derived from accepted values or physical constants, or have been derived by ratio or self
calibration techniques. All test are performed with a TUR (Test Uncertainty Ratio) of 4:1 unless
otherwise specified. All calibration activities performed are in compliance with
ANSI/NCCL Z540, ISO/GUIDE 25, AND MIL-STD-45662A.

CALIBRATION INFORMATION									
Cal Date	Time	3/1/02	14:20:00	Temperature	28.20°C	Company	[Redacted]		
Next Cal Due	2/28/03		Humidity	37 %	Address	[Redacted]			
Pass	Y	Tech		DARLENE TURNER	C/S/Z	[Redacted]			
Seals OK	Y	Note			PO#	[Redacted]			
Cal Procedure ICP ACCELEROMETER									
Revision 1.0									
Std. Asset Number	Mfg	Model		Description	Cal. Date	Due Date			
VALTE108	FLUKE	87		DVM	9/10/01	9/10/02			
0074	DYNAMIC	DI-803		TRANSDUCER TESTER	4/11/01	4/11/02			
9801183	ENTEK/IRD	970		STANDARD TRANSDUCER	1/19/02	1/17/03			
9804138	ENTEK/IRD	544		STANDARD TRANSDUCER	1/19/02	1/17/03			

FIG. 7

Signed: _____

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EXAMPLE

GRB ENTERPRISE

<report substitution mt_user1>
<report substitution mt_user2>

Failed Calibration Report

DRAFT

For Instrument:

FLUKE 87

Description: _____ DVM
Asset Number: VALTE106 Serial Number VALTE106

GRB ENTERPRISE hereby certifies that...
the above described instrument met or exceeded all published specifications at the time of calibration specified below; and has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) within the limitations of the Institute's calibration services, or have been derived from accepted values or physical constants, or have been derived by ratio or self calibration techniques. All calibration activities performed are in compliance with MIL-STD-45662A.

CALIBRATION INFORMATION

Cal Date Time 8/28/03 04:22:00 Temperature 23.80°C Shop
Next Cal Due 8/28/03 Humidity 40 % Work Order

Pass I Tech Carlos R. Hill
Seals OK Y Note

Cal Procedure CME IRD 810 TEST 1(844)

Revision 1.0

STANDARDS USED FOR CALIBRATION

Asset Number	Mfg	Model	Description	Cal Date	Due Date

FIG.8

Signed: _____

UUT: ENTEKIRD DATAPAC 1500
DATA COLLECTOR
Serial No: 9909398
Asset No. 080

Result: PASS
 Performed on: 12/10/01 at 18:13:00
 Performed by: DARLENE TURNER
 Environment: Temp. 26.2°C Humid. 37 %
 Condition F/L: FOUND-LEFT
 Procedure Completed:

Notes:

Standard Used	Mfg	Model	Description	Cal. Date	Duo Date
CRPSTE1026	AGILENT	3466A	6 1/2 MULTIMETER	11-Apr-01	11-Apr-02
CRPSTE1026	GLOBAL	108/2120	GENERATOR	30-Apr-01	30-Apr-02

TEST#	STD PARAMETER	TRUE VALUE	----- READING	UNIT UNDER TEST	TOLERANCE	OUT ERROR	ERROR IN ("% of Tol.)	TUR USER	NOTIFY
1	Asset # of Serial # of Transducer								
1	MODEL 8000A-LW								
1	AND 1212								
1	MODEL 8000A-LW								

Model	Serial #	Test #	Test Description	Reading	Unit
Model 1	1000	1	READING IN ACC	35.4	0mv
		2	10.0 Hz test @ 1.0g	35.4	0mv
		3	100.0 Hz test @ 1.0g	35.4	0.2mv
		4	50.0 Hz test @ 1.0g	35.6	0.2mv
		5	500.0 Hz test @ 1.0g	35.6	0.3mv
		6	50.0 Hz test @ 1.01n/sec	35.7	0.03mv
		7	1000.0 Hz test @ 1.0g/sec	5.78	0.2mv
		8	READING IN VEL	57.7	1mv
		9	10.0 Hz test @ 1.01n/sec	31	2.3mv
		10	500.0 Hz test @ 1.01n/sec	302	-0.02mv
		11	READING IN MIL	8	0mv
		12	50.0 Hz test @ 1.0 MIL	18.4	2.8mv
Model 2	1000	1	READING IN ACC	35.4	0mv
		2	10.0 Hz test @ 1.0g	35.4	0mv
		3	100.0 Hz test @ 1.0g	35.4	0.2mv
		4	50.0 Hz test @ 1.0g	35.6	0.2mv
		5	500.0 Hz test @ 1.0g	35.6	0.3mv
		6	50.0 Hz test @ 1.01n/sec	35.7	0.03mv
		7	1000.0 Hz test @ 1.0g/sec	5.78	0.2mv
		8	READING IN VEL	57.7	1mv
		9	10.0 Hz test @ 1.01n/sec	31	2.3mv
		10	500.0 Hz test @ 1.01n/sec	302	-0.02mv
		11	READING IN MIL	8	0mv
		12	50.0 Hz test @ 1.0 MIL	18.4	2.8mv

GRM Enterprise Nuntime Report: Calibration Results
 ENTSEKURD DATAPAC 1500 Asset No. 060 Serial No: 990
 Calibrated on 12/10/04 at 16:15:00

Casey

FIG. 9

Darlene Turner
Serial No.: 10/629,445
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EXAM

GRB ENTERPRISE

FINAL VALIDATED
Certificate of
Calibration

3600 SUNBURY RD.
COLUMBUS, OH 43219
614-476-6839
1-800-350-4988
FAX: 614-476-0784
www.calibrationmadeeasy.com

EXAMPLE

For Instrument: ENTEKIIRD DATAPAC 1500

Description: DATA COLLECTOR
Asset Number: 080
Serial Number: 9909396

GRB ENTERPRISE, HEREBY CERTIFIES THAT:
the above described instrument met or exceeded all published specifications at the time of calibration specified below; and has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST) within the limitations of the Institute's calibration services, which have been derived from accepted values or physical constants, or have been derived by ratio or self calibration techniques. All test are performed with a TUR (Test Uncertainty Ratio) of 4:1 unless otherwise specified. All calibration activities performed are in compliance with ANSI/NC SL 2540, ISO/GUIDE 25, ISO/GUIDE 17025, QS-9000, ISO-9000 AND MIL-STD-45662A.

CALIBRATION INFORMATION

Cal Date Time 12/10/01 18:13:00
Next Cal Due 12/10/02

Temperature 26.20°C
Humidity 37 %

Company
Address
C/S/Z
PO#

Pass Y
Seals OK Y
Tech DARLENE TURNER
Note

Cal Procedure IRD MODEL DATAPAC 1500

Revision 1.0

Std. Asset Number	Mfg	Model	Description	Cal. Date	Due Date
GRBTE1026 GRBTE1026	AGILENT GLOBAL	3468A 105/2120	8 1/2 MULTIMETER GENERATOR	4/11/01 4/30/01	4/11/02 4/30/02

Dated Signed:

Tested by:

Validated by:

Approved by:

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FIG. 10

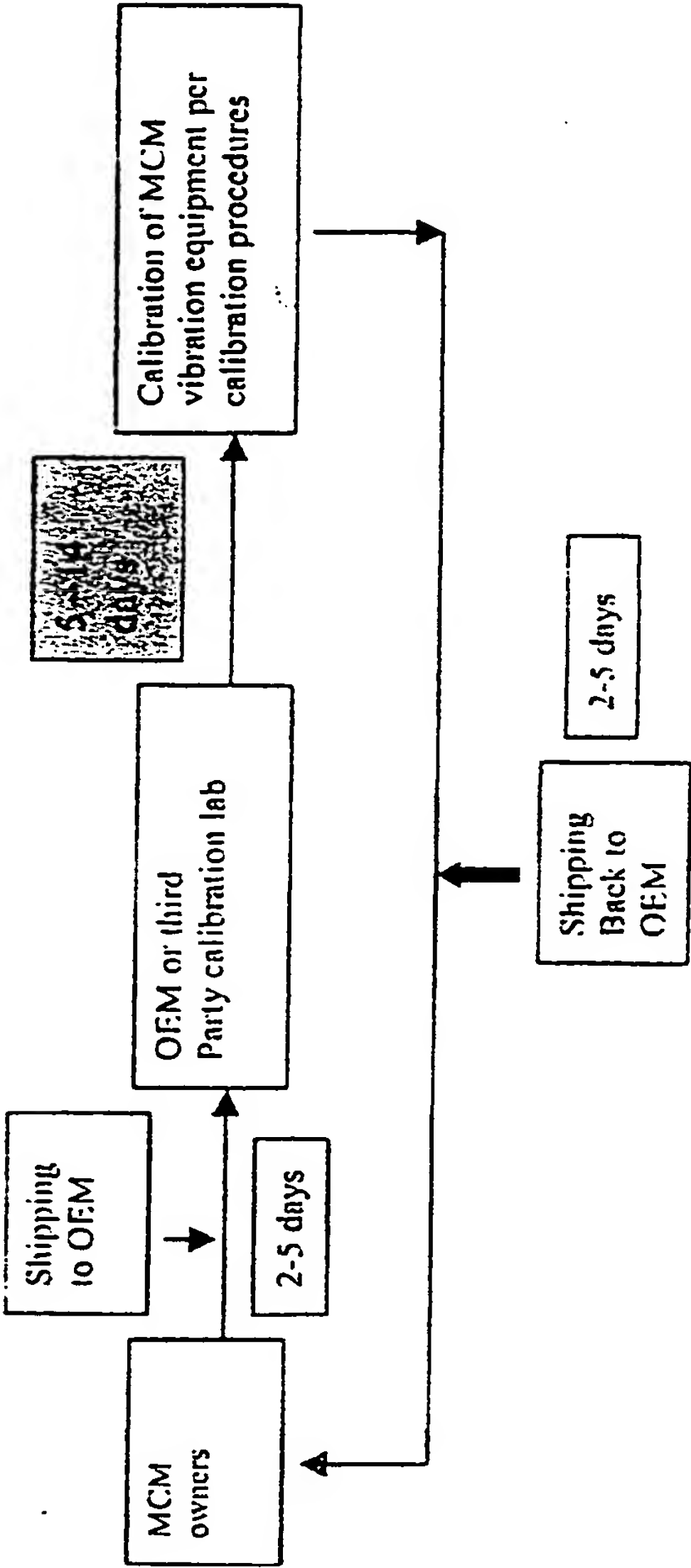


FIG. 11